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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,706

11/24/2003

Manabu Sawasaki

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5369

24978 7590 06/25/2009

GREER, BURNS & CRAIN  
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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

06/25/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/720,706	<b>Applicant(s)</b> SAWASAKI ET AL.	
	<b>Examiner</b> Dung Nguyen	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23,25-28 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23,25-28 and 32-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/03/2009 has been entered.

Applicant's amendment dated 04/03/2009 has been received and entered. By the amendment, claims 23, 25-28 and 32-36 are pending in the application.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23, 25, 28 and 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lien et al., US 6,493,050, in view of Kadota et al., US Patent 5,818,550 and Ikeda et al., US 6,671,025.

Regarding claims 23, 28, 32 and 34-36, Lien et al. disclose a liquid crystal display (LCD) device (figures 11A-11B, 3-4 and 17) comprising:

. a thin film transistor (TFT) substrate having a substrate (304) with resin color filters (306/600) and a pixel electrode (322);

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. a common electrode substrate having a second substrate (302) having a common electrode (338);

. a liquid crystal layer (101);

. a columnar spacer having laminated resin layers (color filter stacks 600) and a second resin layer (602) that both contacted with the liquid crystal layer (layer between two substrates 610, 612);

. an alignment regulating structure (606).

Lien et al., however, neither disclose a photosensitive acrylic resin based material for the second resin layer and bus lines having a surface from a low reflection material nor the bus lines located directly below the columnar spacer and another one in a location that separates the first and second resin color filter layers.

Lien et al do disclose the second resin layer can be made by a photoresin layer (col. 7, ln 20-21). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a photosensitive acrylic resin for the Lien et al. second resin layer, since it has been held to be within the; general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. In addition, Kadota et al. do disclose bus lines (i.e., including a surfaces of the bus lines) can be formed from a low reflection material (e.g., Cr, Al)(see paragraph bridging columns 6 and 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ a low-reflection based material for bus lines, since it is a common practice in the art to improve display characteristics (e.g., contrast).

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Ikeda et al. disclose a spacer (combination of 113/117/115) can be directly formed bus lines 103a/103b in an LCD device (see figure 19). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ at least a bus line directly located below a spacer as shown by Ikeda et al. for keeping a constant cell gap and improving a display aperture.

Regarding claims 25 and 33, the modification to Lien et al disclose the claimed invention as described above except for the thickness of the second substrate. Kadota et al. do disclose the second substrate (12) can be thinner than the first substrate (0). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to form an upper surface (display side) thin and light in order to reduce side and birefringence on an LCD display side.

3. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lien et al., US 6,493,050, in view of Kadota et al., US Patent 5,818,550, further in view of Kurematsu et al., US Patent No. 5,764,318.

Regarding the above claims, Lien et al. disclose the claimed invention as described above except for the common substrate being of alkaline glass. Kurematsu et al. disclose an alkaline glass can be formed in an LCD device (col. 2, ln 64-67 and col. 3, ln 1-3). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ an alkaline substrate as shown by Kurematsu et al. for cost efficiency (Id.).

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### ***Response to Arguments***

4. Applicant's arguments filed 04/03/2009 have been fully considered but they are not persuasive.

Applicant's argument is that the cited reference fails to disclose or suggest the bus lines located directly below the columnar spacer and another one in a location that separates the first and second resin color filter layers. The Examiner respectfully disagrees with Applicant's viewpoint. In particular, Lien et al. disclose a columnar spacer (108) can be formed over the bus lines area (see figure 2) as well as Ikeda et al. figure 19 clearly shows the bus line(s) (drain bus line 103a and gate bus line 103b) located directly the columnar spacer (113/117/115). In addition, Kadota et al. also disclose the color filter layers (9R/9G/9B) can be formed with the bus line (6c) therebetween (i.e., bus line 6c separated the color filter layer 9R/9G or 9G/9B or 9B/9R). Therefore, it would have been at least obvious to modify the Lien et al. device to have a bus line directly below a spacer and to separate color filter layers as claimed as well.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
06/22/2009

/Dung T. Nguyen/  
Primary Examiner  
Art Unit 2871